

CLAIMS:

1. A computer method for rendering a stroboscopic representation from images in a video sequence, comprising the steps of:

- (a) separating the images into a background portion and a foreground portion, resulting in a background sequence and a foreground sequence;
- (b) selecting from the foreground sequence at least one feature to be included in the stroboscopic sequence, resulting in a foreground selected sequence;
- (c) synthesizing the background sequence and the foreground selected sequence, resulting in a synthesized sequence; and
- (d) rendering the stroboscopic representation from the synthesized sequence.

2. The method of claim 1, wherein the images are from a fixed field of view.

3. The method of claim 1, wherein separating comprises estimating camera motion in making the video sequence.

4. The method of claim 1, wherein separating comprises using camera parameters in making the video sequence.

5. The method of claim 4, wherein the camera parameters have been obtained by sensors.

6. The method of claim 1, wherein selecting is at a fixed frame interval.

7. The method of claim 1, wherein selecting is at clocked time intervals.

8. The method of claim 1, wherein selecting is at specified background locations.

9. The method of claim 1, wherein selecting is at specified foreground events.

10. The method of claim 1, wherein selecting comprises accepting input for the feature to be selected.

11. The method of claim 1, wherein synthesizing comprises choosing a field of view for the stroboscopic representation.

12. The method of claim 11, wherein the field of view is the same as original field of view.

13. The method of claim 11, wherein the field of view is greater than original field of view.

14. The method of claim 13, wherein the field of view encompasses all of a foreground movement.

15. The method of claim 11, wherein the field of view is less than original field of view.

16. The method of claim 1, wherein rendering comprises generating the stroboscopic representation as a still image.

17. The method of claim 16, wherein rendering further comprises converting the still image to video.

18. The method of claim 17, wherein converting comprises scanning.

19. The method of claim 18, wherein scanning comprises accepting input for at least one scanning parameter.

20. The method of claim 19, wherein the scanning parameter is one of scanning

direction, scanning speed and focal length.

21. The method of claim 19, wherein the input is from a joy stick device.

22. The method of claim 1, wherein rendering comprises generating the stroboscopic representation as a video including multiple representations of at least one foreground feature frozen at triggering instants.

23. The method of claim 22, wherein rendering further comprises including a trace of the feature between the multiple representations.

24. The method of claim 1, wherein rendering comprises placing multiple representations of at least one foreground feature against a background, with the representations being spaced apart according to a function of time.

25. The method of claim 24, wherein the representations are spaced apart on account of their actual spatial travel.

26. The method of claim 24, wherein the representations are spaced apart other than on account of their spatial travel, spatially unrolling their action.

27. The method of claim 24, wherein the representations are shown over an actual background.

28. The method of claim 24, wherein the representations are shown over a synthetic background.

29. The method of claim 1, wherein rendering comprises controlling foreground feature persistency.

30. The method of claim 29, wherein controlling is for older representations of a foreground feature as a function of time to appear increasingly transparent.

31. The method of claim 1, wherein rendering comprises assigning a distinctive brightness/color to at least one foreground feature.

32. The method of claim 31, wherein the brightness/color is selected as a function of time.

33. The method of claim 1, wherein rendering comprises 3-dimensional reconstruction of the stroboscopic representation.

34. The method of claim 1, wherein the video sequence is of a sports event.

35. The method of claim 1, further comprising broadcasting the stroboscopic representation.

36. The method of claim 1, further comprising delivering the stroboscopic representation over the Internet.

37. A system for rendering a stroboscopic representation from images in a video sequence, comprising:

(a) means for separating the images into a background portion and a foreground portion, resulting in a background sequence and a foreground sequence;

(b) means for selecting from the foreground sequence at least one feature to be included in the stroboscopic sequence, resulting in a foreground selected sequence;

(c) means for synthesizing the background sequence and the foreground selected sequence, resulting in a synthesized sequence; and

(d) means for rendering the stroboscopic representation from the synthesized sequence.

38. A system for rendering a stroboscopic representation from images in a video sequence, comprising a processor which is instructed for:

(a) separating the images into a background portion and a foreground portion, resulting in a background sequence and a foreground sequence;

(b) selecting from the foreground sequence at least one feature to be included in the stroboscopic sequence, resulting in a foreground selected sequence;

(c) synthesizing the background sequence and the foreground selected sequence, resulting in a synthesized sequence; and

(d) rendering the stroboscopic representation from the synthesized sequence.